

PHA Findings

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ABU	Plant	Revalidation	Start Date	End Date	Facilitator	Scribe
Cracking	Alkylation Plant	2008	4/2/2008	5/8/2008	C. Rene' Murata	

Core Team Members / Role			Close Out Meeting Participants / Role		
Caroline Lauro, Process Engineer Tom Mays, Head Operator			Doug Fryer, Caroline Lauro, Chris Watson, Mike Huff		
Additional Participants / Role			Entire PHA Report		
			\\RIC841NTSHARE1.RIC841.CHEVRONTEXACO.NET\SHARE\Psm\Mod-only\PHAfiles\Web_Links\2008 Alky-SHU PHA Final.pdf		
			* Further discussion about any portion of the report and its contents should be directed to the facilitator or any of the team members listed		
Comments					
Reviewed By		Date	Feedback/Comments		

Section No	Section Description									
11	V-1411 through K-1420 and E-1420A-P to V-1420									
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
11.1.1.1	16625	No Flow	6. Concern is that failure of the K-1420 may lead to compressor damage resulting in personnel exposure. Consider CBO refresher training on simulator for K-1420	S	5	Review training material, train more often on K-1420 (1-3 X/ yr) shutdown sequence.	Simulator training, including New Job Hanson, Class, Panel Evaluations and refresher, have and will be used as time is available at the Vista Simulation Training Center. A more	Christopher J.	1/1/2009	Completed

shutdown. (PHA)

consistant resolution might be to add a Satellite Simulation Station in the Cracking Area Control Center, similar to the ones at Hydro and D&R.

Section No Section Description

18 C-1430 through E-1433 A/B and E-1434 to V-1421, including E-1432

Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
18.14.1.1 16627		Startup/Shutdown	8. Concern: Water in column/exchangers during start-up. Consider adding use of C-1430 bottoms to C-1400 line during startup of C-1430	A	9	Verify if in procedure, and add if necessary.	C-1430 start up procedure, ALK-NP-5410, has been updated to include the above recommendation.	Hanson, Christopher J.	8/14/2008	Completed
18.2.4.1 16626		More Flow	7. Concern is that the 4" valve at LCV-438 manifold is inadvertently opened. Consider adding to the car seal list C-1430 bottoms bypass to C-1400.	A	8	Evaluate need, then add to list. (If decided necessary.)	Evaluated the need for adding valve to the carseal list, with Tom Mays (Alky HO) and decided that the Normal Operating Procedures for starting up sufficiently covers the opening and closing of the valve. No need to add to the list.	Hanson, Christopher J.	8/14/2008	Completed

Section No Section Description

21 V-1411 to P-1410/A through E-1410A/B and E-1414 A/B to V-1440

Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
21.1.1.1 16628		No Flow	9. Concern is that these pumps run at the top of their curve which may lead to pump failure with the possibility of personnel exposure. Consider installing larger pumps.	S	5	Consider installing alarm to indicate APS activation, thus decreasing the likelihood. Restrict discharge flow. Include pump upgrade on IPR list as a safety item. Alarm due 10/31/2008 Pump upgrade decision 4/19/2009	APS alarm is in place as LL discharge pressure (14PI261)	Watson, Christopher	4/19/2009	Completed
21.1.1.1 16629		No Flow	10. Update P&ID 321421 to indicate EBV # for V-1441 (14-HS-440)	S	5	Ensure that the P&IDs are updated.	P&ID 321421 was updated to show EBV installation including volume tank. Scanned drawing was sent to Drafting.	Tirona, Martin	2/15/2009	Completed

Section No Section Description

22 V-1411 & V-1412

Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
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22.5.1.1 16630	Mis-Directed Flow	11. Concern is that the V-1412 drain to OWS may be inadvertently opened leading to personnel exposure. Consider installing reversible blind on V-1412 drain to OWS.	S	7	Verify that there is a blind, if not, install one.	A work request was issued to install blinds to the OWS. Blinds have been installed and item is complete.	Moore, Ronald A.	2/28/2009	Completed
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Section No	Section Description									
25	C-1400 through E-1400A-F to V-1400									
Item	WhatIf	Deviation	A/C	SOE RR		ABU Proposal	Resolution	Owner	Due By	Status
25.1.1.1 16631		No Flow	13. Update P&ID to reflect third PSV #? on C-1400	S	6	Ensure that the P&IDs are updated.	MOC # 14600 has the P&ID markup that was submitted to Drafting. No additional P&ID updates are required. New PSV AL-1470 is updated on database.	Tirona, Martin	1/31/2009	Completed

Section No	Section Description									
26		V-1400 reflux, recycle and excess Isobutane lines								
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
26.1.1.1	16632	No Flow	14. Concern is that failure of these pumps may lead to a release to atmosphere and possible personnel exposure. Consider installing larger capacity P-1400s.	S	5	Consider installing alarm to indicate APS activation, thus decreasing the likelihood. Restrict discharge flow. Include pump upgrade on IPR list as a safety item. Alarm due 1/31/2009 Pump upgrade decision due 4/19/2009	APS activation alarm exists as LL discharge pressure (14PI775)	Watson, Christopher	4/19/2009	Completed
26.10.1.1	16634	More Level	14. Concern is that failure of these pumps may lead to a release to atmosphere and possible personnel exposure. Consider installing larger capacity P-1400s.	S	6	Consider installing alarm to indicate APS activation, thus decreasing the likelihood. Restrict discharge flow. Include pump upgrade on IPR list as a safety item. Alarm due 1/31/2009 Pump upgrade decision due 4/19/2009	APS activation alarm exists as LL discharge pressure (14PI775)	Watson, Christopher	5/19/2009	Completed
26.2.4.1	16633	More Flow	14. Concern is that failure of these pumps may lead to a release to atmosphere and possible personnel exposure. Consider installing larger capacity P-1400s.	S	6	Consider installing alarm to indicate APS activation, thus decreasing the likelihood. Restrict discharge flow. Include pump upgrade on IPR list as a safety item. Alarm due 1/31/2009 Pump upgrade decision due 4/19/2009	APS activation alarm exists as LL discharge pressure (14PI775)	Watson, Christopher	5/19/2009	Completed

Section No		Section Description								
29		C-1400 Bottoms								
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
29.5.4.1	16636	Mis-Directed Flow	15. Concern is that the NC 8" block valve on C-1400 bottoms between C-1220 feed and C-1220 bottoms return is inadvertently opened. Consider adding to CSC closed list.	A	9	Evaluate need, then add to list. (If decided necessary.)	Evaluated the need for adding valve to the carseal list, with Tom Mays (Alky HO) and decided that the Normal Operating Procedures for starting up and shutting down C-1400/C-1220 sufficiently cover the opening and closing of the valve. No need to add to the list.	Hanson, Christopher J.	8/14/2008	Completed

Section No		Section Description								
31		C-420 to V-420								
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
31.2.1.1	16637	More Flow	16. Update P&ID D-319791 regarding rotameter, there isn't one.	A	9	Ensure the P&IDs are updated.	P&ID 319791 was updated to remove rotameter. Scanned drawing was sent to Drafting for update.	Tirona, Martin	1/31/2009	Completed

Section No		Section Description								
36		Acid from V-1440 to V-470								
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
36.2.7.1	16639	More Flow	18. Update P&ID to reflect that P-1445/A is OOS. (Alkat system)			Ensure the P&IDs are updated.	P&ID 321420 was updated to show P-1445/A as out of service. Scanned drawing was sent to Drafting for update.	Tirona, Martin	1/31/2009	Completed

Section No		Section Description								
37		V-1481 with P-1481, V-1473 with P-1474/A and D-1482								
Item	WhatIf	Deviation	A/C	SOE	RR	ABU Proposal	Resolution	Owner	Due By	Status
37.15.2.1	16648	Leak/Rupture	An AC from 2001 had not been closed due to not being assigned. Determine need for project to redesign strong acid sewer.			Determine need for project and make recommendation to do it, or reject it.	The Strong Acid sewer re-design has been added to the 2010 Shutdown worklist and should be completed during the planned TA	Moore, Ronald A.	5/19/2009	Completed

Section No		Section Description							
38		Degassers to General Chemical							
Item	WhatIf	Deviation	A/C	SOE RR	ABU Proposal	Resolution	Owner	Due By	Status
38.5.1.1	16641	Mis-Directed Flow	19. Concern is that the degasser bypass valve may be inadvertently opened delivering contaminated Spent Acid to General Chemical. Consider labeling the spent acid lines.c	S	6 Label lines.	Permanent bake alite tag instilled to indicate bypass valve so it wont be inadvetently opened.	Mays, Tommy M.	12/31/2008	Completed

Section No		Section Description							
4		R-900 C5 SHU Reactor to Alky Feed							
Item	WhatIf	Deviation	A/C	SOE RR	ABU Proposal	Resolution	Owner	Due By	Status
4.1.2.1	16620	No Flow	Concern: PFDs and P&IDs have not been updated to accurately reflect the current equipment configuration. Ensure all SHU drawings are updated.		Ensure SHU drawings are up to date.	Action item needs to be more specific on which items on the PFDs and P&IDs need to be up to date. P&IDs and PFDs will be reviewed and updated as DED work on the SHU.	Tirona, Martin	1/31/2009	Declined

Section No		Section Description							
7		R-1410A/B to/from V-1410A							
Item	WhatIf	Deviation	A/C	SOE RR	ABU Proposal	Resolution	Owner	Due By	Status
7.15.1.1	16624	Human Factors	5. Concern is that power leads may be installed incorrectly leading to Contactor seal damage. Consider adding a check for motor rotation on start-up procedure.	S	6 Update procedure	ALK-NP-4140 modified to reflect concern. Added Pre-requisite to check motor rotation after maintenance and prior to start-up.	Hanson, Christopher J.	10/31/2008	Completed

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